

ATTACHMENT TO NOTICE OF ALLOWABILITY

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Danielle L. Herritt, Reg. No. 43,670 on 01/27/10.

The application has been amended as follows:

IN THE CLAIMS:

In Claim 1, at Lines 12-13, change:

“(f) analyzing the collected, diffracted x-rays to map the lattice parameter in the polycrystalline material.”

to:

--(f) analyzing the collected, diffracted x-rays;

(g) quantitatively mapping a lattice parameter in the polycrystalline material using said analyzed, collected, diffracted x-rays.--

In Claim 18, at Lines 10-11, change:

Art Unit: 2882

“(f) means for analyzing the collected, diffracted x-rays to map the lattice parameter in the polycrystalline material.”

to:

--(f) means for analyzing the collected, diffracted x-rays;

(g) means for quantitatively mapping a lattice parameter in the polycrystalline material using said analyzed, collected, diffracted x-rays.--

Allowable Subject Matter

Claims 1-24 are allowed.

The following is an examiner's statement of reasons for allowance:

With respect to Claim 1, the prior art of record teaches many of the elements of the claimed invention, including an x-ray diffraction method for the analysis of polycrystalline materials, the method comprising: providing a polycrystalline material sample for analysis; providing a polychromatic x-ray source, wherein the source produces x-rays by accelerating charged particles to energies of no more than 1 MeV; collimating x-rays from the polychromatic x-ray source into a beam having a divergence in the range of from 10^{-4} to 10^{-2} radians; exposing at least a portion of the polycrystalline material to the collimated x-ray beam, whereby the x-ray beam is diffracted; collecting at least some of the diffracted x-rays in an energy dispersive x-ray detector or array; and, analyzing the collected, diffracted x-rays to determine a lattice parameter in the polycrystalline material.

However, the prior art fails to teach or fairly suggest the method wherein analyzing the collected, diffracted x-rays includes quantitatively mapping said lattice parameter in the polycrystalline material, in the manner required by Claim 1.

With respect to Claim 18, the prior art of record teaches many of the elements of the claimed invention, including an apparatus for x-ray diffraction analysis of polycrystalline materials, the apparatus comprising: a polychromatic x-ray source, wherein the source produces x-rays by accelerating charged particles to energies of no more than 1 MeV; means for collimating x-rays from the polychromatic x-ray source into a beam having a divergence in the range of from 10^{-4} to 10^{-2} radians; an energy dispersive x-ray detector or array for collecting at least some of the diffracted x-rays resulting, in use, from exposing at least a portion of a polycrystalline material; to the collimated beam; and means for analyzing the collected, diffracted x-rays to determine a lattice parameter in the polycrystalline material.

However, the prior art fails to teach or fairly suggest the method wherein analyzing the collected, diffracted x-rays includes quantitatively mapping said lattice parameter in the polycrystalline material, in the manner required by Claim 18.

With respect to Claim 21, the prior art of record teaches many of the elements of the claimed invention, including a method of determining a sub-surface lattice parameter in a polycrystalline material, the method comprising: providing a polycrystalline material sample for analysis; providing a polychromatic x-ray source, wherein the source produces x-rays by accelerating charged particles to energies of no more than 1 MeV; collimating x-rays from the polychromatic x-ray source into a beam

Art Unit: 2882

having a divergence in the range of from 10^{-4} to 10^{-2} radians, and a penetration depth of ≥ 1 mm; scanning the collimated x-ray beam across the sample, whereby the beam is diffracted; collecting at least some of the diffracted x-rays in an energy dispersive x-ray detector or array; and, analyzing the collected, diffracted x-rays to determine a lattice parameter in the polycrystalline material.

However, the prior art fails to teach or fairly suggest the method wherein analyzing the collected, diffracted x-rays includes quantitatively mapping said lattice parameter in the polycrystalline material, in the manner required by Claim 21.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANASTASIA MIDKIFF whose telephone number is (571)272-5053. The examiner can normally be reached on M-F 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. M./
Examiner, Art Unit 2882
01/27/10

/Edward J Glick/
Supervisory Patent Examiner, Art Unit 2882